

CLAIMS

1. A biodegradable implant comprising:
 - a matrix component containing at least one biodegradable polymer or copolymer, and
 - 5 a plasticizer that is adapted to reduce substantially the rigidity of the implant,
 - which plasticizer substantially exits from the implant after coming into contact with tissue fluids of the organ system in such a manner that
 - the bending resistance of the implant prior to the insertion of the im-
 - 10 plant into the organ system is substantially lower than after its insertion into the organ system.
2. A biodegradable implant comprising:
 - a matrix component containing at least one biodegradable polymer or copolymer, and
 - 15 a plasticizer that is adapted to reduce substantially the rigidity of the implant,
 - which plasticizer substantially comprises N-methyl-2-pyrrolidone (NMP),
 - 20 and which plasticizer substantially exits from the implant after coming into contact with tissue fluids of the organ system in such a manner that
 - the bending resistance of the implant prior to the insertion of the im-
 - plant into the organ system is substantially lower than after its insertion into the organ system.
3. An implant as claimed in claim 1, wherein the matrix component comprises at least one of the following polymers or copolymers that is selected from the following group: polyglycolide, polylactides, polycaprolactones, polytrimethylenecarbonates, polyhydroxybutyrates, polyhydroxyvaler-
- 30 ates, polydioxanones, polyorthoesters, polycarbonates, polytyrosinecarbonates, polyorthocarbonates, polyalkylene oxalates, polyalkylene succinates,

poly(malic acid), poly(maleic anhydride), polypeptides, polydepsipeptides, polyvinylalcohol, polyesteramides, polyamides, polyanhydrides, polyurethanes, polyphosphazenes, polycyanoacrylates, polyfumarates, poly(amino acids), modified polysaccharides, modified proteins and copolymers thereof.

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4. An implant as claimed in claim 1, wherein at least the surface of the implant is porous.

10 5. An implant as claimed in claim 1, wherein active agents, such as antibiotics, pharmaceutical products, growth hormones, styptic agents, chemotherapy agents, are arranged in the implant.

6. An implant as claimed in claim 1, wherein the plasticizer is added to the matrix material at the latest at the forming stage of the implant.

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7. An implant as claimed in claim 1, wherein the plasticizer is added to the implant just before the implant is inserted into the organ system.

20 8. An implant as claimed in claim 1, wherein the implant is a membrane used in guided tissue regeneration.

9. A method for manufacturing a biodegradable implant comprising the steps of:

25 selecting biodegradable polymer(s) or copolymer(s) of a matrix component of the implant,

adding a plasticizer to the matrix component,

30 which plasticizer substantially exits from the implant after coming into contact with tissue fluids of the organ system in such a manner that the rigidity of the implant increases substantially after the implant is inserted into the organ system, and

forming the implant from the mixture of said matrix component and plasticizer.

10. A method for manufacturing a biodegradable implant comprising the steps of:

- 5 selecting biodegradable polymer(s) or copolymer(s) of a matrix component of the implant,
- forming the implant from said matrix component, and
- adding a plasticizer to the matrix component,
- which plasticizer substantially exits from the implant after coming into contact with tissue fluids of the organ system in such a manner that the
- 10 rigidity of the implant increases substantially after the implant is inserted into the organ system.

11. A method as claimed in claim 9, wherein the plasticizer comprises N-methyl-2-pyrrolidone (NMP).

12. A method as claimed in claim 9, wherein the plasticizer is added to the implant just before the implant is inserted into the organ system.

13. A method as claimed in claim 9, wherein the matrix component

20 comprises at least one of the following polymers or copolymers that is selected from the following group: polyglycolide, polylactides, polycaprolactones, polytrimethylenecarbonates, polyhydroxybutyrates, polyhydroxyvalerates, polydioxanones, polyorthoesters, polycarbonates, polytyrosinecarbonates, polyorthocarbonates, polyalkylene oxalates, polyalkylene succinates, poly(malic acid), poly(maleic anhydride), polypeptides, polydepsipeptides, polyvinylalcohol, polyesteramides, polyamides, polyanhydrides, polyurethanes, polyphosphazenes, polycyanoacrylates, polyfumarates, poly(amino acids), modified polysaccharides, modified proteins and copolymers thereof.

30 14. A method as claimed in claim 9, wherein the implant is porous.

15. A method as claimed in claim 9, wherein active agents are added to the implant.

16. A method as claimed in claim 15, wherein the active agents are
5 first mixed into the plasticizer and then added together with the plasticizer to the matrix component.

17. A method as claimed in claim 9, wherein the implant is a membrane used in guided tissue regeneration.